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RESEARCH MEMORANDUM

MARINE CORPS DEPLOYMENT CONCEPTS: A PAPER FOR THE 1986 SEA POWER FORUM

George Akst

A Division of

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Hudson Institute

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3. This research memorandum formed the basis for a briefing at last year's Sea Power Forum, sponsored by the Center for Naval Analyses.


Christopher Jehn
Director
Marine Corps Operations
Analysis Group

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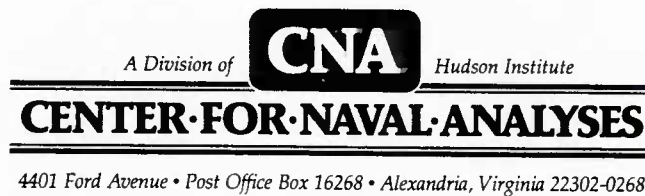
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MARINE CORPS DEPLOYMENT CONCEPTS: A PAPER FOR THE 1986 SEA POWER FORUM

George Akst

Amphibious and Land Warfare Research Department



ABSTRACT

This research memorandum describes the various deployment options developed by the Marine Corps over the past decade. It begins with a brief discussion of the history, mission, and organization of the Marine Corps. Then, after describing the methods of deployment, it examines the effect the deployment techniques have had on the way the Marine Corps employs its forces in peacetime.

TABLE OF CONTENTS

	<u>Page</u>
Introduction	1
History	1
Mission	1
Organization	2
Methods of Deployment	4
Background	4
Amphibious Forces	6
Maritime Prepositioning Force	7
Land-Based Prepositioning	9
Air Contingency Battalion	11
Unit Deployment Program	13
Impact on Nonorganic Lift	14
Employment	16
Training and OPTEMPO	16
Modernization	17
A Case Comparison	18
Conclusion	21

INTRODUCTION¹

HISTORY

The United States Marine Corps has been synonymous with amphibious assaults since its first one on 3 March 1776. In that historic event, a total of 250 Marines and sailors assaulted the island of Nassau in the Bahamas to support the birth of the United States. The amphibious assault continued to be refined throughout the next two centuries and played a crucial role in the battle of the Pacific in World War II. At that time, we had about 2,800 amphibious ships and ocean-going landing craft. A decade later, during the Korean War, there was only one significant amphibious assault: the landing at Inchon. However, the art of amphibious warfare was substantially advanced during that war by the development of the helicopter as a means to move troops and equipment into and around the battlefield. Hence, the amphibious assault was no longer limited to surface craft, but could be performed by air or, more likely, some combination of air and surface craft.

The period after World War II, and especially the 1960s and 1970s, saw the drastic decline of U.S. amphibious capability. The Navy's fleet of amphibious ships had dwindled to 135 by 1965 and to less than half of that by the early 1970s. The ships on hand were getting old, and the U.S. was threatened with the loss of its amphibious capability altogether. Traditionally, people thought of the Marines as our rapid deployment force, and that means of deployment had always been the Navy's amphibious ships. With the decline in amphibious shipping, there could be some genuine questions about the requirement for a Marine Corps at all. Fortunately, much has changed in the last ten years. Part of that change is a rebirth of the Navy's amphibious fleet, but that was not enough. The real change was in the expanded deployment options developed by the Marine Corps over the past decade. The Marines are still very much our rapid deployment force, but the means of deployment is no longer restricted to amphibious shipping. Rather, it has expanded to encompass the entire spectrum of military and civilian airlift and sealift as well as prepositioned equipment. To better understand the current deployment options of the Marine Corps, some background on the mission and organization of the United States Marine Corps is needed.

MISSION

By nature, the Marine Corps is an expeditionary organization, known for its amphibious warfare capabilities. The Marine's unique amphibious capability provides this nation with a substantial means of forcible entry into a hostile environment. The organization and mission of the

1. The tone of this research memorandum is somewhat informal because it was presented in the form of a briefing to the 1986 Sea Power Forum.

Marine Corps were set forth in the National Security Act of 1947. In that act, Congress described the Marine Corps as follows:

The Marine Corps, within the Department of the Navy, shall be so organized as to include not less than three combat divisions and three air wings, and such other land combat, aviation, and other services as may be organic therein. The Marine Corps shall be organized, trained, and equipped to provide fleet marine forces of combined arms, together with supporting air components, for service with the fleet in the seizure or defense of advanced naval bases and for the conduct of such land operations as may be essential to the prosecution of a naval campaign.

The Marine Corps shall develop, in coordination with the Army and the Air Force, those phases of amphibious operations that pertain to the tactics, technique, and equipment used by landing forces.

We must not forget, however, that the Marines can be used quite effectively in other, nonamphibious, roles. For example, they can work with a joint or combined task force in a land campaign or provide a combined arms force for crisis situations. In fact, one of the key attributes of the Marines is their tremendous flexibility, and much of this flexibility is due to their organization.

ORGANIZATION

The Marine Corps organizes for administration and small unit training quite differently than it organizes for exercises and wartime. Administratively, the Fleet Marine Force (FMF) is organized into divisions, wings, and force service support groups (FSSGs). The divisions provide the ground troops, including the infantry, artillery, tanks, and amphibious vehicles. The wings provide the aircraft, including fixed-wing fighter and attack aircraft, and attack and transport helicopters. Finally, the FSSG provides the bulk of the combat service support functions, including maintenance, supply, motor transport, and medical. The Naval Support Element also provides some of the support functions.

Tactically, the Marines organize into Marine air-ground task forces (MAGTF) that are formed to meet different mission requirements. Each MAGTF consists of a headquarters element, a ground combat element, an aviation combat element, and a combat service support element. The smallest MAGTF is a Marine amphibious unit (MAU), which is designed around an infantry battalion and a composite helicopter squadron. The next larger task force is a Marine amphibious brigade (MAB), which has an infantry regiment as its ground combat element and an aircraft group as its aviation combat element. The largest MAGTF is a Marine

amphibious force (MAF), consisting notionally of a division, wing, and FSSG. Because the Marines task-organize for each mission, the MAGTFs may not be exactly as described above; for example, a MAF could be put together having only two infantry regiments rather than a division consisting of three regiments. Unless specifically noted, however, all of the MAGTFs discussed in the remainder of this paper are the notional organizations described above.

One of the disadvantages of organizing differently for peacetime than for wartime is that the units do not train together as a team on a regular basis. To alleviate this shortfall, the Marine Corps has created a total of 14 permanent MAGTF headquarters to train and operate together full-time. There are three MAF headquarters: I MAF is located at Camp Pendleton, California; II MAF is located in Camp Lejeune, North Carolina; and III MAF is located in Okinawa, Japan. Each MAF controls two MAB headquarters,¹ with one MAB having a primary amphibious mission and the other one focusing on a maritime prepositioning force mission. Finally, both I MAF and II MAF have the responsibility to provide an afloat MAU to the western Pacific and the Mediterranean, respectively. To do this, each MAF has created two to three MAU headquarters so that when one MAU is afloat, the other can be preparing for its deployment. Each MAU deployment lasts about six months.

1. III MAF directly controls only one MAB, the 9th MAB in Okinawa. The 1st MAB in Hawaii is under the operational control of the Commanding General, Fleet Marine Force, Pacific.

METHODS OF DEPLOYMENT

BACKGROUND

The primary means of deployment for the Marine Corps is via amphibious shipping. The main support for this deployment method, the amphibious Navy, has been declining since World War II and is only now beginning to see some substantial gains. Currently, about 60 amphibious ships are in the Navy, spread over the Atlantic and Pacific Fleets--not enough in its entirety to lift a single MAF. A large portion of the MAF is not required in the initial amphibious assault, however, but is needed shortly afterwards to sustain the force for any significant period of time. Hence, we come upon the concepts of the assault echelon (AE) and the assault follow-on echelon (AFOE). The assault echelon is the set of troops, vehicles, aircraft, equipment, and supplies needed to successfully execute the initial amphibious assault. The assault follow-on echelon is the remainder, or, in the words of LFM-01, it is:

That echelon of assault troops, vehicles, aircraft, equipment, and supplies which, although not needed to initiate the assault, is required to support and sustain the assault. In order to accomplish its purpose, it is normally needed in the objective area no later than 5 days after the commencement of the assault landing.

Now that we have refined the requirement for amphibious ships so that we must transport only the assault echelon of a landing force, we do have enough amphibious shipping to conduct a MAF assault--barely! It would probably require every amphibious ship in the Navy that was not undergoing overhaul at a given point in time--over 50 ships. The Navy, however, could comfortably support the assault echelon of a MAB from each of the two fleets. The ultimate goal of the amphibious ship-building program for this century is the capability to lift the assault echelons of a MAF plus a MAB--up from the 1.15-MAF goal of the Carter administration.

In addition to the assault echelon, we must also consider the fly-in echelon (FIE) and the assault follow-on echelon to complete the picture. The FIE consists of most of the fixed-wing aircraft and some of the people and equipment to support them. Although the aircraft are self-deploying, the support tail requires transport airlift to get to the amphibious objective area. Finally, the AFOE is a substantial part of any MAGTF, totalling about 65 percent of the total lift for a MAF. It is estimated that a MAF AFOE would require 32 commercial ships and a MAB AFOE would take 8. Table 1 summarizes the lift requirements of a 1990 MAB and a MAF, based on the Marine Corps Mid-Range Objectives Plan (MMROP) for fiscal years 1986 through 1995.

TABLE 1

SUMMARY OF LIFT REQUIREMENTS FOR 1990's FORCES

	<u>Troops</u>	<u>Square (K ft)</u>	<u>Cube (K ft)</u>	<u>Helicopter spots^a</u>	<u>Landing craft (LCAC/LCU/LCM-8)</u>
MAF ^b					
AE	35,000	746	1,647	438	65/9/38
AFOE	15,200	827	7,143		
FIE ^c	2,100	23	112		
MAB ^d					
AE	11,000	268	624	153	25/4/16
AFOE	4,200	165	1,516		
FIE ^c	500	8	39		

a. CH-46 equivalents.

b. Total of 60 days of supply for the MAF; does not include the naval support element.

c. Assumes all aircraft intermediate maintenance support is transported by air, i.e., limited intermediate maintenance support available in the amphibious objective area.

d. Total of 30 days of supply for the MAB; does not include the naval support element

Thus, we see that to support any reasonable-sized amphibious operation would require not only most of the amphibious fleet, but also a substantial amount of nonorganic airlift and sealift as well. This has forced the Marine Corps to investigate alternative means of deploying forces. A recent addition to the nation's power-projection capabilities is the Maritime Prepositioning Ships Program. In this program, three squadrons of maritime prepositioning ships (MPS) were procured, along with nearly a MAB's worth of equipment on each squadron. These ships are stationed in key areas around the globe, where they can react to any crisis situation in a relatively short amount of time. When called upon, they can sail into a secure port or beach area and unload their equipment. There, they are joined with the personnel and additional equipment of the MAB that are flown into a nearby airfield. Within 10 days, the people and equipment can be "married up" into a sizeable, combat-ready MAB. A similar program is also underway in Norway, where we are prepositioning supplies and equipment for a MAB to support the Norwegians against a Soviet attack. This land-based prepositioning program is similar to the MPS program in that a MAB's worth of troops

will fly into an area to join their equipment and supplies. In addition to these prepositioning programs, each MAF also has an air contingency battalion, which is ready to deploy totally on transport aircraft with very short notice.

The Marine Corps has tremendously increased its deployment options over the past decade. The remainder of this section will examine each of the Marine Corps deployment options in more detail and discuss the implications of this enhanced deployment posture.

AMPHIBIOUS FORCES

Amphibious operations are the traditional means of power projection of Naval forces. In an amphibious operation, the MAGTF will be deployed as a landing force aboard an amphibious task force. The smallest MAGTF that routinely deploys is the MAU, which embarks upon three to five ships that compose an amphibious ready group. A typical MAU is commanded by a colonel, consists of about 2,000 troops, and carries with it 15 days of supply and ammunition. When employed, the command element will normally remain embarked on the amphibious command ship for the duration of the operation because the MAU does not have a sufficient command-and-control (C²) structure to support itself. Because of the limited sustainment and C² capability, its missions are somewhat restricted. The main role of the MAU is to provide an immediate reaction capability to crisis situations. In this age of terrorist activity, the MAUs are enhancing their special operations training and equipment to deal more effectively with the current threat. If the requirement for a larger force exists, the MAU could still provide a rapid response capability, being used in the role of the forward element of a larger MAGTF.

Both I MAF and II MAF have two to three permanent MAU headquarters each, one of which is continuously deployed. The operating areas for the I MAF MAU are the western Pacific and Indian Oceans, where it falls under the operational control of the Navy's Seventh Fleet. The II MAF MAU generally operates in the Mediterranean, where it comes under the operational control of the Sixth Fleet. The MAU is the most responsive MAGTF and the only type that is continuously deployed. We have seen evidence of this responsiveness recently in the operation in Grenada, in which the MAU sailing to the Mediterranean was diverted to the Caribbean at the last minute. This demonstrated not only its quick reaction time, but also its flexibility. A MAU was also used in the operations in Lebanon several years ago.

The next-sized MAGTF is the MAB, which is commanded by a brigadier general, consists of almost 16,000 troops, and notionally carries with it 30 days of supply and ammunition. It takes about 20 amphibious ships to embark the assault echelon of a MAB and another 10 or more commercial ships to carry the assault follow-on echelon. Furthermore, if the aircraft intermediate maintenance activity is not already supported in

the amphibious objective area and has to be flown in, it would take an additional 170 C-141 equivalent sorties for the fly-in echelon. Thus, even with an amphibious MAB, there is a substantial reliance on common-user airlift and sealift.

A MAB is a much more capable, self-sustaining, and flexible organization than a MAU. Unlike a MAU, a MAB has the capability to make the transition ashore and operate independently from the ships of the amphibious task force. Although we do not deploy MABs for extended periods of time like the MAUs, it could be done during potential crises. This deployment would provide a positive show of force without actually engaging, and might be enough to cool a potentially threatening situation without ever having to land a single Marine. If not, the deployed MAB could provide an immediate response force and eventually be augmented to form a MAF.

Each of the three MAFs maintain two permanent MAB headquarters.¹ All six MAB headquarters are fully trained and capable of performing amphibious missions. Three of these headquarters are also associated with the Maritime Prepositioning Program, which will be described shortly. With the exception of the 1st MAB in Hawaii, the MABs normally exist only as a MAB headquarters and would draw their troops from the division, wings, and FSSGs for exercises or actual operations.

The largest MAGTF is a MAF, which is commanded by a major general or lieutenant general, contains over 50,000 troops, and would take over 50 amphibious ships just to carry the assault echelon. The MAF, along with its associated follow-on and fly-in echelons, is self-sustaining for 60 days. It is extremely unlikely that a MAF would be embarked on a single amphibious task force and sail to an objective area as a unit. More likely, it would be "composited" from several smaller MAGTFs that have deployed independently. The ultimate goal in any large, sustained operation is to employ a MAF. Because it is nearly impossible to deploy a MAF simultaneously, the Marines have been developing alternative deployment methods so that through compositing of different forces, they can form a MAF for employment at the earliest possible time.

MARITIME PREPOSITIONING FORCE

Maritime prepositioning is a program that developed, in some ways, because of the limited amphibious lift capability in the U.S. Navy. Its history dates back at least to the Carter administration, which saw the need for an improved, non-NATO, military capability. In response to this requirement, the Secretary of the Navy directed the Navy Department to initiate a program of enhanced mobility for Marine forces. This was

1. The second MAB in the Pacific, 1st MAB, does not come under the operational control of III MAF; rather, it reports directly to the Commanding General, Fleet Marine Force, Pacific.

the beginning of our sea-based prepositioning program. At about the same time, the JCS began identifying the Rapid Deployment Force (RDF) and discussing the composition of the Rapid Deployment Joint Task Force (RDJTF). Both of these new concepts were formulated at the same time in response to the same overall requirement, and both were focused towards southwest Asia. Hence, many people at the time inappropriately linked the two programs. The sea-based prepositioning program led to today's Maritime Prepositioning Ships (MPS) program; the RDJTF eventually became a new unified command: the U.S. Central Command.

Detailed planning for the MPS program began in early 1980. Although a fully capable force would not be deployed until four years later, the Navy did implement a temporary, quick solution within six months known as the Near-Term Prepositioning Ships (NTPS). The 7th MAB headquarters was formed to serve as the command element of this new force, and by the summer of 1980, six ships loaded with a MAB's equipment and 15 days of supply were steaming towards the Indian Ocean. The NTPF grew to a total of 18 ships by 1982, which supported not only a MAB, now with 30 days of supply, but also carried war materiel for Army and Air Force units as well. Thus, NTPF was a multiservice program that, like the RDJTF, was focused on southwest Asia.

During that time, the Navy and Marine Corps were developing the Maritime Prepositioning Ships (MPS), the successor to the NTPS. The MPS consists of three squadrons of special converted/constructed commercial ships, each squadron of which is loaded with a MAB's worth of equipment and 30 days of supply. A squadron consists of four or five roll-on/roll-off (RO/RO) ships, spread-loaded with the MAB's equipment and supplies, and possessing sufficient lighterage to load or offload in-the-stream. The ships each have limited equipment maintenance spaces, integrated command-and-control capabilities, humidity and temperature controls for the equipment, and limited troop berthing spaces.

All three MPS squadrons are now loaded out and in place in their operating areas. The first squadron deployed to the eastern Atlantic in July 1984. The second squadron replaced the Marine Corps portion of the NTPS in Diego Garcia in December 1985. The last squadron to be put into service just sailed into Guam and Tinian in October 1986. Thus, the three squadrons are spread across the globe, ready for any worldwide commitments.

The concept of operations for an MPS brigade involves a "marry-up" of troops and equipment in a secure operating area. These ships would sail to a port or anchorage near the shore, where they would unload their equipment and supplies. The troops, along with their individual equipment and certain items not on the ships, would fly into a nearby airfield on strategic airlift. Then, the troops and equipment would marry up into a combat-ready brigade. All of this is projected to take place within a 10-day time frame and requires 249 aircraft sorties of various types (289 C-141 equivalents). In contrast, the same force

transported by air alone would occupy about 4,500 C-141 sorties. To illustrate the immensity of this number, if we could generate one sortie every 15 minutes, day and night, it would take over 45 days just to transport the MAB by air.

There are two noticeable shortfalls in this concept. The first is that there is no substantial intermediate maintenance activity (IMA) support for the aviation combat element of this force. The aviation spare parts and ground support equipment are very expensive and were left off the "shopping list" of equipment for the ships. To remedy this shortfall, the Navy is converting two ships to become aviation logistics support ships (T-AVBs). During an MPS employment, these ships could be loaded with the IMA equipment from one of the Marine aircraft wings and then sail to the objective area. The other shortfall is in the area of medical support, and the Navy is building two hospital ships (TAHs) to satisfy this shortfall. The T-AVB and TAH are not being built strictly to support an MPF; they could be used to support an amphibious assault as well.

An MPF MAB is substantially larger and heavier than an amphibious MAB. For example, it has over 16,000 troops and almost three times the number of tanks and amphibious assault vehicles. It provides the fleet commanders with another deployment option and greatly increases the national capability to respond rapidly to crisis situations. A maritime prepositioning force could perform many of the same missions as an amphibious force, such as occupying or reinforcing an advance naval base or defending key choke points along strategic sea lines of communications. It could also be used to reinforce an amphibious assault. A major new mission would be as a deterrent to hostile actions simply by strategically moving the MPS squadron. This could send a strong signal to a potential adversary without having to move a single troop. One must bear in mind, however, that although MPF operations greatly increase our deployment capability, they are not a substitute for the traditional amphibious assault. They require a secure environment and a capable airfield in proximity to the MPS offload point. Without these conditions being met, a maritime prepositioned force cannot be employed successfully.

LAND-BASED PREPOSITIONING

The land-based prepositioning program in Norway is another program designed to enhance our deployment options. The Navy views the defense of northern Norway as strategically critical in a war with the Soviets in Europe. A number of airfields in northern Norway would provide an appealing forward base for Soviet aircraft, should they be able to capture them. Furthermore, these airfields are strategically important to the Allies as well for monitoring the Soviet navy in the Norwegian and Barents seas. Although a number of different Allied forces are earmarked for the defense of Norway, the Marine prepositioned force is certainly one of the key forces for this mission.

The idea of prepositioning equipment in Norway originated in several studies generated in the 1970s and was first directed in July 1978 by Secretary of Defense Harold Brown. A collection of equipment and supplies stored in Norway would be a positive signal of U.S. commitment to the defense of Norway and decrease the time needed to respond to a Soviet threat. By positioning the equipment in central Norway, rather than closer to the threat in northern Norway, we can provide better security for the gear, be less provocative to the Soviets, and keep our employment options more flexible.

In January 1981, a Memorandum of Understanding between the U.S. and Norway was signed, stating that the U.S. "may provide, consistent with SACEUR requirements and implementing arrangements, a U.S. MAB for Alliance reinforcement of Norway within the NATO chain of command." This was refined over the next four years in various agreements between Norway, the U.S., and NATO. Basically, the agreements call for storing enough equipment and supplies in central Norway to support a 13,000-man brigade with 30 days of supply. This force will be very light, having no tracked vehicles at all. In fact, the only major weapon system that is prepositioned is the artillery. The storage facilities will be in carved, granite caves that have controlled temperature and humidity and blast-proof doors for the ultimate in protection.

The U.S. government is responsible for procuring and shipping the equipment and supplies to Norway. The remainder of the responsibilities lies with NATO and Norway, to include facilities construction, road networks, maintenance facilities and personnel, and nearby airfield improvements. Like the MPS brigade, the troops for the Norway brigade, along with their personal equipment and certain items not in storage, will fly into a nearby airfield using strategic airlift. There they will marry up with their equipment to form a combat-ready MAB. The time line for the entire process, from leaving the U.S. until the MAB is married up with its equipment in the employment area, is about ten days. Unlike the MPF brigade, the Norway brigade depends on host-nation support to effect this marry-up. The Norwegians are responsible for unloading the caves and supporting the airfields. In fact, much of the equipment that the brigade will use, such as marginal terrain vehicles, trucks, and airbase support equipment, will be supplied by the Norwegians at the time of employment. Furthermore, the Norwegians will be responsible for transporting the brigade from central Norway to the area of operations. Another difference from the MPF brigade is that rather than taking on a global responsibility, the Norway brigade is focused on a specific region, with a known threat, climate, and other conditions as well.

Equipment and supplies began to be shipped to Norway in 1982 and have been placed in temporary storage facilities while the caves are being constructed. In 1987, the Norwegians will begin to move the equipment into the caves, and all of the equipment will be shipped and appropriately stored by 1989. In the meanwhile, the 4th MAB, from

Norfolk, Virginia, has been training in earnest for this mission. It has sent small units to the Marine Corps Mountain Warfare Training Center in Bridgeport, California, for training and has conducted large unit training in other areas of the northcentral and northeast United States. In addition, it has deployed to Norway in each of the past several years to train under the same conditions and with the actual prepositioned equipment that it would have in a real operation.

Land-basing of equipment and supplies is not unique to the Marine Corps. In the Army's POMCUS (preposition of material configured in unit sets), combat supplies and equipment for six divisions are stored in warehouses and depots in Germany, Belgium, and the Netherlands. This program is supported predominantly by U.S. forces, as compared with the host-nation support provided to the Marines in Norway.

AIR CONTINGENCY BATTALION

The air contingency battalion (ACB) is a specially designated infantry battalion within the MAF that is kept at a high state of readiness and on a very short tether. In other words, the ACB must be ready to deploy on strategic airlift within a period of a few days, and a specially designated reinforced rifle company within the battalion has to be ready in a much shorter time period. Having such a short fuse is very demanding, and, consequently, the duties of the ACB rotate among the infantry battalions in each MAF. A battalion can expect to retain this responsibility for a period of one to five months, after which another battalion will take over. With the exception of the forward-deployed MAU, the ACB is the Marine Corps' most responsive unit. In fact, depending on the geography, the ACB may be able to respond even faster than a MAU.

The name "air contingency battalion" is somewhat misleading, because the unit actually contains substantially more than an infantry battalion. A notional force list for an ACB would typically include an infantry battalion, an artillery battery, a combat engineer platoon, an antitank (TOW) weapons section, a section of a FAAD (Stinger missile) battery, a section of a truck platoon, a small combat service support detachment, and a host of other small detachments. Thus, its makeup is much like that of the battalion landing team in a MAU.

The ACB is a light unit, with only limited combat capability. It can be deployed on approximately 35 C-141 aircraft, taking only five days of supply. It does retain the option, however, of deploying amphibiously should the mission require. This would enable it to build up to a heavier and more sustainable force but, of course, would increase the time to transit to any area of operations.

Table 2 summarizes the characteristics of the deployed or deployable units discussed so far in this section.

TABLE 2
SUMMARY OF CHARACTERISTICS OF DEPLOYABLE UNITS

	<u>ACB</u>	<u>MAU</u>	<u>Amphibious MAB</u>	<u>MPS MAB</u>	<u>Norway MAB</u>	<u>MAF</u>
Personnel	1,200	2,000	15,700	16,500	13,000	52,300
Equipment						
Tanks	0	5	17	53	0	70
AAVs	0	12	47	109	0	208
Artillery	8	8	36	36	24	120
Mortars	8	17	51	51	49	153
TOWs	8	8	48	96	72	144
Dragons	24	32	96	96	96	288
LAV	0	0	36	28	0	147
HAWK launchers	0	0	6	6	12	24
Fixed-wing aircraft	0	0 ^a	79	79	77	157
Helicopters	0	22	100	68	78	156
Lift requirements						
Amphibious ships	0	3-5	20	0	0	52
Commercial ships	0	0	8	4-5 ^b	0	32
Airlift ^c	35	0	35/170	289/449	-- ^d	105/540
Sustainability (DOS)	5	15	30	30	30	60

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- a. A MAU will often sail with a detachment of four or six AV-8 aircraft.
b. This does not include the T-AVB and/or TAH, which could sail in conjunction with the MPF.
c. In terms of C-141 equivalent sorties. If there are two numbers, the first number represents the number of sorties required if a T-AVB were available to carry the aircraft IMA; the second number assumes the IMA will all be carried by air.
d. Not determined at this point.

UNIT DEPLOYMENT PROGRAM

One other Marine Corps program deserves mention here: the unit deployment program (UDP). The program was actually designed as a means of stabilizing the units stationed in the western Pacific. Although one may not normally associate this program with the deployment options previously discussed, it is, in fact, a way of forward deploying Marines for contingencies that may arise in the western Pacific theater.

In the mid-1970s, personnel were assigned to Japan on a one-year, dependents-restricted tour. At the time, these personnel made up 14.5 percent of the entire Marine Corps. As a result, the Marine Corps paid a high price in terms of permanent change of station (PCS) budget dollars, personnel turnover rates, low morale, lost manpower, and low readiness for these units. This was in direct conflict with Commandant Louis Wilson's stated objectives at the time. He wanted uniformly high readiness throughout the Corps and the highest possible quality of personnel. On Christmas Eve in 1975, the Assistant Secretary of Defense for Manpower and Reserve Affairs, William K. Brehm, issued a memo called "Reduction of Personnel Turbulence." In it, he outlined various guidelines and constraints for personnel moves. These guidelines would have restricted the Marine Corps policy of personnel assignments in Japan. Thus, the Commandant's objectives and Mr. Brehm's guidelines drove the Marine Corps to reexamine its methods of personnel assignment in the western Pacific.

In response to this problem, Headquarters, Marine Corps convened a study group that proposed, in October 1976, the creation of temporary unit deployments, that is, assigning entire units (infantry battalions/ aircraft squadrons) from CONUS to Japan on a temporary additional duty (TAD) status for six-month periods. This would reduce personnel turbulence and PCS funding and enhance unit integrity, morale, and readiness. The program was first started in October, 1977, and was fully implemented by January, 1983, when every battalion and squadron in Japan were participating. The first year after the system was fully in place, it cost an additional \$25 million in per diem and transportation, but saved \$35 million in PCS moving expenses and \$15 million in fewer transient man-years lost. Thus, the program does reduce expenditures and has been successful in its other goals as well.

The responsibility of providing units to the program is shared between east coast and west coast forces and rotates among the units in those forces. Typically, a Marine would serve two six-month overseas tours in a three-year assignment to a battalion or squadron. During the period immediately preceding a deployment, a lot of time and effort goes into preparing the unit. The troops are carefully screened for "deployability." Marines with certain medical or behavioral problems, those with insufficient time left in their tour, and certain women Marines would not be assigned to a deploying unit. In fact, the Marine Corps has developed a computerized personnel system for those units involved

in the unit deployment program. As a result, it is rare to have a Marine detach from his unit during the actual deployment. In addition, units preparing for deployment go through a fairly intensive training cycle, with better access to facilities, equipment, and supplies than nondeploying units. As a result, deployed units are typically at an all-time high state of combat readiness.

IMPACT ON NONORGANIC LIFT

All of the deployment options just discussed have shown the Marine Corps to be a highly mobile, extremely flexible service, prepared to take on many different missions for the National Command Authority. For each of these missions, the Marines can get there quickly and stay for an extended period of time without significant external support. However, there is a price to pay. This price is in the form of an ever-increasing demand for common-user airlift and sealift--national assets that are already overcommitted. It should be pointed out here that we are paying this price because of the lack of amphibious shipping and not because of the expansion of deployment options. In fact, the prepositioning of equipment is helping to slow the increase in demand for nonorganic lift.

The services have two major sources of intertheater airlift: the Military Airlift Command (MAC) and the Civilian Reserve Air Fleet (CRAF). The 1981 Congressionally Mandated Mobility Study concluded that the Air Force should provide enough airlift to carry 66 million ton-miles per day (MTM/D), of which 40 percent should be "outsized" capable. That study showed that requirements might actually exceed 100 MTM/D; however, 66 MTM/D was considered a reasonable goal. At the time of the study, the capacity of the Air Force was 29 MTM/D. Four years later, that capacity had grown to only 32 MTM/D, and the projected capacity for 1989, including 50 new C-5Bs and 30 additional KC-10s, is only 50 MTM/D--far short of the stated requirement. CRAF is a consortium of 27 U.S. airline companies that have voluntarily agreed to provide emergency airlift within 48 hours. CRAF currently provides about 30 percent of our total cargo-carrying capacity for strategic airlift. In addition to these major sources, we will probably have to rely on certain NATO, Canadian, and Korean aircraft to provide additional airlift for any major operation.

Although we rely heavily on airlift to move troops and equipment rapidly into the theater of operations, about 90 percent of the material required to maintain combat forces overseas will be moved by sea. In this country, civilian merchant shipping has been declining since World War II. We now rank 12th in the world in number of merchant ships and 8th in gross tonnage. Managing this shipping during wartime is the major concern of the Navy's Military Sealift Command (MSC). We often use the term "U.S. Controlled Fleet," which consists of the following: MSC Nucleus Fleet, the U.S. Flag Fleet, the Ready Reserve Force (RRF), the National Defense Reserve Fleet (NDRF), and the Effective U.S.

Control Fleet. The MSC Nucleus Fleet consists of about 60 ships that are available for strategic sealift on a daily basis; most of these ships are civilian owned. The government-owned Ready Reserve Fleet, part of the National Defense Reserve Fleet, contains an additional 75 ships that can be made available within five to ten days. The remainder of the NDRF consists of almost 200 ships of World War II vintage, spread over three sites, that can take up to six months to activate. Finally, the Effective U.S. Control Fleet consists of about 350 ships flying the flags of Panama, Liberia, Honduras, and the Bahamas and owned by U.S. citizens or corporations. Although these ships could potentially be pressed into service, most of them are not considered militarily useful. In addition to these U.S.-controlled assets, a pool of European ships guarantees the U.S. 400 out of 600 ships for use in a NATO conflict.

The common-user lift requirements of the Marine Corps potentially put a big strain on our limited airlift and sealift capabilities. Although the Maritime Prepositioning Force reduces the reliance on amphibious shipping, it requires 249 air sorties (289 C-141 equivalents) to transport the troops and additional equipment into the objective area. Likewise, the Norway Prepositioning Brigade requires a substantial amount of airlift as well. Even the fly-in echelons of amphibious MABs and MAFs are growing to be a substantial requirement. Then, of course, there is always a heavy reliance on sealift to bring in the assault follow-on echelon. In fact, the only Marine Corps unit capable of deploying without common-user lift support is the MAU. Thus, we see that the Marine Corps is becoming dependent on the support of non-Naval forces. Should this support not be available, these new deployment options being developed by the Marine Corps may not work.

EMPLOYMENT

One should not talk about deployment without at least mentioning employment. After all, the reason we deploy Marine forces is in preparation to employ them. We have discussed how a number of different programs have affected the way the Marine Corps deploys. This section discusses the impact the new deployment techniques have had on the way the Marine Corps employs its forces in peacetime; in other words, we examine the training and tempo of operations (OPTEMPO) of today's Marine Corps. The other factor greatly affecting employment is the modernization of Marine Corps weapons systems taking place throughout the 1980s.

TRAINING AND OPTEMPO

Along with the expansion of deployment options for the Marine Corps has come a large increase in the types and level of training required to support it. In fiscal year 1985, there were almost 200 major Marine Corps field training exercises--up from about 80 in FY 1980. Much of the Marine Corps training is conducted in units rather than for individuals. The Marine Corps Air-Ground Combat Center in Twentynine Palms, California, conducts ten live-fire combined arms exercises each year. Each exercise trains a reinforced battalion¹ supported by an aviation combat element² in the areas of integrated fire and air support and maneuver warfare. To gain experience in cold-weather warfare, the Marines send ten battalion-sized units each year through the Marine Corps Mountain Warfare Training Center in Bridgeport, California. On the air side, the Marine Aviation Weapons and Tactics Squadron One (MAWTS-1) trains about 140 aircrews yearly in its semiannual Weapons and Tactics Instructor Courses. In addition to unit training, the Marines regularly participate in a large number of joint or combined exercises such as Team Spirit, Freedom Banner, Teamwork, Northern Wedding/Bold Guard, and Bright Star.

All of this training supports the substantial operational commitments that the Marines Corps has worldwide. Two MAUs are continuously deployed, one in the Mediterranean and one in the western Pacific/Indian Ocean. This year, two F/A-18 squadrons and two A-6E squadrons are deployed on Navy aircraft carriers. The A-6 commitment will grow to four squadrons by 1988. Under the unit deployment program, five infantry battalions, ten aircraft squadrons, and other smaller units are deployed to Japan at any given time. Just counting infantry battalions, this adds up to seven battalions deployed at any one time. If we add the battalions preparing to deploy with the MAUs or as part of the unit deployment program, the total increases to 14 battalions. Finally, if

1. In both 1984 and 1985, two of these battalion exercises were combined into regimental-sized exercises.

2. The combat service support assets are routinely provided by I MAF.

we include the air contingency battalions, which are prepared to deploy with very short notice, the total comes to 16 battalions.¹ The fact that there are only 27 infantry battalions in the entire active-duty Marine Corps clearly demonstrates the high OPTEMPO and dedication to the deployment philosophy that the Marine Corps maintains.

MODERNIZATION

Within the past decade, the Defense Department has begun a number of steps to improve our amphibious capabilities. We are now embarked upon the largest amphibious ship modernization program in the last 40 years. We have procured the AV-8A Harrier aircraft and are now procuring the AV-8B. This versatile aircraft can deploy directly on the helicopter carriers of an amphibious task force to provide an organic strike capability. We are now beginning to receive the first landing craft air cushion (LCAC) vehicles, which will change the manner in which amphibious assaults are conducted. These craft can carry troops and equipment from ship to shore at speeds in excess of 50 knots. This will allow assaults from over the horizon, where the task force is out of range of enemy direct-fire weapons, and opens up most of the world's littorals to amphibious assaults. The MV-22A Osprey (capable of speeds to 300 knots, vastly increased ranges, and worldwide self-deployment) will become the Marine Corps' troop assault aircraft, replacing the CH-46E. All of these things will greatly improve our amphibious capabilities in the 1990s.

1. Although there are three air contingency battalions, one of them is already participating in the unit deployment program and was not included to avoid double-counting.

A CASE COMPARISON

Having seen what the Marine Corps has done over the past decade, and what it is planning over the next decade, a logical question to ask is: How is this any different from what the Army is doing? After all, the Army is also prepositioning equipment in Europe and is developing a number of rapidly deployable units as well. A case comparison here is useful to help understand the unique characteristics of Marine Corps units. One of the Army forces most often compared to the Marines is the light infantry division (LID). Under development over the past five years, the LID is designed to provide a greater "tooth-to-tail" ratio than any other Army division and to be capable of deploying much faster than the standard infantry division. This section compares the capabilities and deployment characteristics of a LID to a Marine unit. A notional MAB was chosen for this comparison because it is the closest MAGTF to a LID in terms of size.

A 1984 White Paper by the Chief of Staff, U.S. Army, described the LID in the following way:

Their rapid deployability will enable them to arrive in a crisis area before a conflict begins. By demonstrating U.S. resolve and capability, they may well prevent the outbreak of war. This is particularly so where low- to mid-intensity conflict threatens, when their presence could decisively affect the outcome. And because of their strategic mobility, these light infantry divisions will help reassure our friends and allies--and deter our adversaries--even as they go about their normal training activities in the United States or in overseas locations.

A LID is a lightly equipped infantry division designed to deploy using only strategic airlift. The division has about 10,700 troops and can be transported on about 500 C-141B aircraft sorties. Because the USAF has less than half of the required C-141B aircraft, a distant deployment could take a relatively long time to complete. The division has no forceable-entry capability and requires either host-nation support in the theater of operations or an area secured by other forces. It contains no tracked vehicles at all and only a limited number of major weapons systems. Because it is so light, it focuses primarily on the low-intensity conflict mentioned in General Wickham's quote. Table 3 compares the major ground combat systems of a LID and an amphibious MAB. It is readily apparent that a MAB is a substantially heavier unit than a LID, even though a MAB's ground combat element is only regimental-sized. The LID, however, has a much higher quantity of small arms weapons.

TABLE 3
COMPARISON OF MAJOR COMBAT SYSTEMS OF A LID
AND A NOTIONAL AMPHIBIOUS MAB

<u>System</u>	<u>Quantity</u>	
	<u>LID</u>	<u>MAB</u>
Tanks	0	17
Amphibious assault vehicles	0	47
Light armored vehicles	0	36
TOW	44	48
Dragon	162	96
Artillery: 105-mm	54	0
155-mm	0	30 ^a
8-inch (SP)	0	6
Mortars	90	51

a. Includes six self-propelled.

The real difference between a MAB and a LID is their sustainability. A LID will deploy with 2 days of supply, compared to 30 days for a MAB. Once in the area of operations, the LID relies heavily on augmentation from an Army Corps; a typical collection of Corps augmentation units is shown in table 4. This augmentation is in marked contrast to a MAB, which is fully self-sustaining throughout the initial stages of combat.

Thus, we begin to see substantial differences in force capabilities and sustainability between a LID and a MAB. In fact, perhaps a more comparable Marine Corps unit, not in terms of size but rather in terms of mission and capabilities, is the air contingency battalion (ACB). Both the LID and the ACB are totally airlifted units; both are available for quick movement (LID--six days; ACB--two days); both have leading elements available for deployment even more quickly; and both are very light. Furthermore, both are limited in the types of missions they can perform and the length of time they can operate without being reinforced and resupplied. Bearing these limitations in mind, both units can play a substantial role in our national defense.

TABLE 4

TYPICAL CORPS AUGMENTATION UNITS FOR A LID

Personnel services company	Military police company (-)
Light truck company	Tank battalion
Medical helicopter battalion	Support group
Corps artillery battalion	NBC company

CONCLUSION

Amphibious forces provide a great deal of flexibility to deal with a wide spectrum of threats. They can be available on very short notice; they can shift theaters relatively easily; and they provide some degree of tactical surprise concerning the precise location and timing of an amphibious landing. They are one of the premiere elements of this nation's power-projection capability, but they can also be used simply to provide presence and deter conflict. They also provide an unparalleled capability for withdrawal and redeployment compared to any other force. This was graphically demonstrated in the recent invasion of Grenada. Unfortunately, however, our amphibious capability has been declining almost constantly since the end of World War II. The major problem is the lack of amphibious shipping. To exacerbate the problem, many of the amphibious ships we do have are getting very old. We can learn a valuable lesson from the British, who conducted an amphibious assault in the Falklands just three years ago. They also had a shortfall in amphibious shipping and were forced to requisition about 50 merchant ships, including the passenger liner Queen Elizabeth II, to support the assault. Even though the assault was eventually successful, it was made much more difficult by the lack of amphibious shipping. The British had a number of problems unloading the commercial ships in the hostile environment of the Falklands.

The Defense Department has been taking steps to upgrade the amphibious fleet and modernize the associated weapons and transportation systems to improve our amphibious capabilities. These steps will provide a quantum improvement by the 1990s, but they are not enough. The Marine Corps can no longer depend on the amphibious assault as the only means of force projection. It needs a much more flexible program of deployment options.

In response to these changing requirements, the Marine Corps has been developing additional deployment options to support the national defense. These options can be placed in three major categories. The first and foremost is their amphibious capability--still our primary means of forceable entry into a hostile environment. The second means of deployment is totally by strategic airlift, predominantly in connection with the air contingency battalions. This often provides the quickest means of responding to a crisis situation. Finally, there are the prepositioning programs that move a majority of the equipment and supplies into the theater before hostilities begin. The sea-based prepositioning program uses the Maritime Prepositioning Ships to store the equipment and supplies. By putting the material on ships, we retain a great deal of flexibility concerning the mission and the location of their use. The land-based prepositioning program is based in central Norway and focuses primarily on a single threat.

All of these deployment options provide the Marine Corps, and the nation, with a great deal of flexibility. There is, however, a price to pay. There is now a much greater reliance on common-user airlift and sealift than there has been in the past. This comes at a time when demands from all of the services are growing appreciably. Unfortunately, capabilities are not growing to match. Therefore, should we need to move large numbers of forces from the U.S. to some theater of operations, there may very well be a lift shortfall. This shortfall will cause the National Command Authority and the Joint Chiefs to make some difficult decisions concerning priorities.

In summary, the Marine Corps has recently developed a number of deployment options, or "packages." People often tend to think of these packages in rigid ways, and that is wrong. Rather, they should be thought of as a large menu from which one can pick and choose the appropriate force and the appropriate means of deployment to satisfy the mission. The fact that this menu has grown so much recently serves only to facilitate this selection process and provide a much greater chance for success. Other services, as well, have been expanding their deployment capabilities. One example is the U.S. Army's light infantry division. If we require a quickly deployable, highly capable, self-sustaining force with a forceable-entry capability, however, the only place to find it is in the United States Marine Corps.

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